LIFTER FOR FURNITURE AND THE LIKE

FIELD OF THE INVENTION

The present invention relates, in general, to an aid for lifting furniture and other similar objects and, more particularly, the present invention relates to a furniture lifter for raising a portion of such furniture to place an object under the furniture such as a slide for moving furniture or a protector for the furniture when cleaning rugs.

BACKGROUND OF THE INVENTION

In both the moving industry and the carpet cleaning industry it is quite common to be faced with the situation in which a relatively large piece of furniture or an appliance has to be moved or raised. With limited manpower it is difficult to pick up the item to place a slide under the furniture so it could be easily moved. A similar problem occurs when carpeting is being cleaned and furniture and the like have to be raised so that a protective pad can be placed under each corner of the item. Many times where a worker may be working alone it is very difficult to raise the item of furniture and still be able to insert what is needed under the furniture at the same time. There have been some lifting units reported in prior art; however most of these are designed more like a jack for motorized equipment such as lawn mowers, while others have specific applications like lifting manhole covers etc. One such prior art apparatus for lifting furniture is found in U. S. Patent No. 6,354,570 which provides a wheeled lifting device.

SUMMARY OF THE INVENTION

The present invention provides an apparatus for applying an upward pressure to at least a portion of an object which is at least sufficient to lift such object a predetermined distance. The apparatus comprises at least one elongated rod member formed of a first predetermined material and having a first predetermined shape. A first means is engageable with a first end of the elongated rod member for gripping the apparatus during use and a second means is one of formed integrally with the elongated rod member as a single piece or is engageable at a first end thereof with a second end of the elongated rod member and extending outwardly therefrom for engaging such object to be lifted. A substantially stationary third means is engageable with and disposed closely adjacent an intersection of the second end of the elongated rod member and the first end of the second means, the substantially stationary third means being positioned for supporting and pivoting the apparatus.

In an alternate embodiment there is provided an apparatus for lifting at least a portion of one of furniture, appliances and movable wall structures. The apparatus comprises at least one elongated rod member formed of a first predetermined material and having a first predetermined shape. A handle means is engageable with a first end of the elongated rod member for gripping the apparatus during use and an elongated leg member is one of formed integrally with the elongated rod member as a single piece or is engageable at a first end thereof with a

second end of the elongated rod member and extending outwardly therefrom for engaging an item to be lifted. The elongated leg member is adjustable in at least one of an angular mode and a longitudinal mode.

Yet another embodiment of the invention provides an apparatus for lifting at least one of furniture, appliances and movable wall structures. The apparatus comprises at least one elongated rod member formed of a first predetermined material and having a first predetermined shape. An elongated arm member is one of formed integrally with the elongated rod member as a single piece or is engageable at a first end thereof with a first end of the elongated rod member and extending outwardly therefrom for gripping the apparatus during use. The elongated arm member is adjustable in at least one of an angular mode and a longitudinal mode and an elongated leg member is engageable at a first end thereof with a second end of the elongated rod member and extending outwardly therefrom for engaging such item to be lifted.

Still another embodiment of the invention provides an apparatus for applying an upward pressure to at least a portion of an object which is at least sufficient to lift such object a predetermined distance. The apparatus comprises a first elongated rod member formed from a first predetermined material and having a first predetermined shape. A first means is engageable with a first end of the elongated rod member for gripping the apparatus during use. There is a second elongated

rod member that is one of being formed integrally with the first elongated rod member as a single piece or is engageable as a separate piece at a first end thereof to a second end of the elongated rod member. An elongated object engaging means is engageable with the second elongated rod member closely adjacent a second end thereof for engaging at least a portion of a bottom surface of such object to be lifted and for exerting an upward pressure to such object. The elongated object engaging means has a predetermined surface bearing area which is at least sufficient to prevent sidewise tipping of the apparatus during use.

In yet another embodiment of the invention there is provided an apparatus which can be used for removing a post imbedded in earth by applying an upward pressure to such post which is at least sufficient to lift such post a predetermined distance, said predetermined distance being at least sufficient to enable removing such post by hand. The apparatus comprises a first elongated rod member formed of a first predetermined material and having a first predetermined shape. A handle means is engageable with a first end of the first elongated rod member for gripping the apparatus during use. There is a second elongated rod member that is one of formed integrally with the first elongated rod member as a single piece or engageable as a separate piece at a first end thereof with a second end of the first elongated rod member and extending outwardly therefrom. A gripping means is engageable with such post for gripping such post during removal and an engagement means is disposed at a second end of the second

elongated rod member for engaging the gripping means in order to exert an upward pressure on such post. The apparatus further includes a substantially stationary combination support and pivot means that is engageable with and disposed closely adjacent an intersection of the second end of the first elongated rod member and the first end of the second elongated rod member for supporting and pivoting the apparatus.

OBJECTS OF THE INVENTION

It is, therefore, one of the primary objects of the present invention to provide an apparatus to aid in lifting or raising furniture, appliances or movable wall structures so as to place a slide under such item.

Another object of the invention is to provide an apparatus for lifting furniture and the like whereby an elongated rod member can be adjusted to provide various lengths.

Still another object of the invention is to provide an apparatus for lifting furniture and the like wherein the handle member is adjustable in at least one of an angular and a longitudinal mode.

Yet another object of the invention is to provide an apparatus for lifting furniture and the like wherein the leg member for engaging the item to be lifted is adjustable in at least one of an angular and a longitudinal mode.

It is another object of the invention to provide an apparatus for lifting furniture and the like wherein the

elongated rod has two telescoping members to provide for longitudinal adjustment.

Still another object of the invention is to provide an apparatus for lifting furniture and the like which is easy to use.

Yet another object of the invention is to provide an apparatus for lifting furniture and the like which is relatively inexpensive to manufacture.

Another object of the invention is to provide an apparatus for lifting furniture and the like which is relatively lightweight.

It is another object of the invention to provide an apparatus for lifting furniture and the like which can be used for other applications such as nail pulling.

It is yet another object of the invention to provide an apparatus for lifting furniture and the like which can be used for applications such as removal of posts embedded in the ground.

In addition to the numerous objects and advantages of the present invention which have been described with some degree of particularity above, it should be both noted and understood that a number of other important objects and advantages of the invention will become more readily apparent to those persons who are skilled in the relevant art of furniture moving from the following more detailed description of the invention,

particularly, when such detailed description is taken in

conjunction with the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a top view of an apparatus for lifting furniture and the like.

Figure 2 is a side elevation view of an apparatus as seen in Figure 1 for lifting furniture and the like.

Figure 3 is a side elevation view of a portion of the apparatus as seen in Figures 1 and 2 for lifting furniture and the like.

Figure 4 is a top view of the portion of the apparatus shown in Figure 3.

Figure 5 is a cross sectional view of the portion of the apparatus shown in Figures 3 and 4.

Figure 6 is a side elevation view of an apparatus for lifting furniture and the like according to an embodiment of the invention.

Figure 7 is a side elevation view of an apparatus for lifting furniture and the like according to an alternate embodiment of the invention.

Figure 8 is a side elevation view of a portion of the apparatus as seen in Figures 6 and 7 according to an alternate embodiment of the invention.

Figure 9 is a back view of the portion of the apparatus as seen in Figure 8.

Figure 10 is a side elevation view of an apparatus for lifting furniture and the like according to alternate embodiments

of the invention.

Figure 11 is a frontal view of a portion of the apparatus as seen in Figure 10 showing the ratchet arrangement for the handle.

Figure 12 is a back view of a portion of the apparatus as seen in Figure 10 showing the ratchet arrangement for the leg.

Figure 13 is a side elevation view of a portion of the apparatus seen in Figure 10 for lifting furniture wherein the ratchet arrangement is in a different position.

Figure 14 is a back view of the portion of the apparatus shown in Figure 13.

Figure 15 is a side elevation view of an apparatus according to alternate embodiments of the invention.

Figure 16 is a side elevation view of a portion of the apparatus as seen in Figure 15.

Figure 17 is a top view of the portion of the apparatus shown in Figures 15 and 16.

Figure 18 is a top view of the portion of the apparatus shown in Figures 15 and 16 according to an alternate embodiment of the invention.

Figure 19 is a top view of an apparatus for lifting an object a predetermined distance according to an alternate embodiment of the invention.

Figure 20 is a side elevation view of the apparatus shown in Figure 19.

Figure 21 is a side view of the U-bolt shown in Figures 19

and 20.

Figure 22 is a top view of an apparatus for lifting an object a predetermined distance according to yet another alternate embodiment of the invention.

Figure 23 is a side elevation view of the apparatus shown in Figure 22.

Figure 24 is a top view of a portion of the apparatus shown in Figures 22 and 23.

Figure 25 is a side elevation view of the apparatus being used to remove a post from the ground according to an alternate embodiment of the invention.

Figure 26 is a top view of a portion of the apparatus shown in Figure 25 according to another embodiment of the invention.

Figure 27 is a side view of the portion of the apparatus shown in Figure 26.

BRIEF DESCRIPTION OF THE PRESENTLY PREFERRED AND VARIOUS ALTERNATE EMBODIMENTS OF THE PRESENT INVENTION

Prior to proceeding to the more detailed description of the present invention, it should be noted that for the sake of clarity in understanding the invention, identical components with identical functions have been designated with identical reference numerals throughout the drawing Figures.

Illustrated in the drawing Figures is an apparatus, generally designated 10, for applying an upward pressure to at least a portion of an object which is at least sufficient to lift such object a predetermined distance. Basically the apparatus 10

is used in lifting at least a portion of one of furniture, appliances and movable wall structures. The apparatus 10 comprises at least one elongated rod member, generally designated 2, formed of a first predetermined material and having a first predetermined shape. There is a first means, generally designated 20, engageable at a first end thereof 21, with a first end 4 of elongated rod member 2 for gripping the apparatus 10

during use. It is presently preferred that such second end 22 of the first means 10 includes a rubber grip 24.

A second means, generally designated 30, includes an elongated leg member 32 that is engageable at a first end 31 thereof with a second end 6 of such elongated rod member 2 and extending outwardly therefrom for engaging such item to be lifted.

The apparatus 10 further includes a third means, generally designated 40, that is disposed closely adjacent an intersection of the second end 6 of the elongated rod member 2 and the first end 31 of second means 30, the third means 40 being positioned for providing a substantially stationary means for sliding, supporting and pivoting the apparatus 10. As used in the present application and in the claims substantially stationary means that in most instances the apparatus will pivot and lift furniture without any appreciable movement. However, it is possible if the lifting point on the furniture or the like is elevated relative to the floor or if the item being lifted is raised a relatively

high distance then the substantially stationary third means 40 may slide slightly when the apparatus is tilted fully in raising the furniture.

In an embodiment of the invention such third means 40 is substantially a base member 42. Such base member 42 has rubber or plastic tips 44 on each end to prevent scratching a floor. In a presently preferred embodiment of the invention such base member 42 is positioned substantially perpendicular to such second means 30 on an underside of second means 30. As stated previously such third means 40 is positioned closely adjacent an intersection of the second end 6 of the elongated rod member 2 and the first end 31 of second means 30. In this manner the third means 40 provides essentially a fulcrum for the apparatus 10 to pivot.

In an alternate embodiment of the invention, as seen in Figures 8 and 9 such third means 40 can be a foot like member 46 pivotably extending down from such second end 6 of elongated rod member 2 for supporting and pivoting the apparatus 10.

Such apparatus 10 can be formed out of a variety of materials including metal and plastic. It is presently preferred that at least the elongated rod member 2 of such apparatus 10 be formed from a tubular steel and it is also preferred that such material whether it is tubular steel or otherwise possesses strength sufficient to lift at least between about 150 and about 300 pounds.

In an embodiment of the invention as shown in Figure 7 such

elongated rod member 2 includes two telescoping sections 8,9 and at least one of the lengths 9 is adjustable. This provides the apparatus 10 with the ability to adjust the size to fit either the user or any constraints as to available space for the item that is being lifted.

In an alternate embodiment of the invention, as seen in Figure 10, such second means 30 is engageable with the second end 6 of the elongated rod member 2 by a ratchet arrangement 36 whereby such second means 30 can be adjusted to a variety of angles. Such second means 30 being substantially an elongated leg member 32. It is also within an embodiment of the invention that the second means 30 is also adjustable. Such adjustable second means 30 includes at least two telescoping members. Again, depending on the item to be lifted this would permit the leg 32 to be extended to reach the base of the furniture or other item if necessary. Such second means 30 also has a tapered end 34 which permits the apparatus 10 to slide under items even if they sit directly on the floor. It is within the scope of the invention that such tapered end 34 can be formed as part of elongated leg member 32 or it can be a separate unit that is engageable with such elongated leg member 32 as either an insert or a sleeve. Figure 5 shows tapered end 34 as being round to fit into or around such round elongated leg member 32. However, it is within the scope of the invention that such tapered end 34 and such elongated leg member 32 have a different shape such as being square, rectangular, oval or any other desired shape. The same

holds for such elongated rod member and such first means (handle means) 20 wherein these items although previously described as tubular could also have a different shape such as that described above for tapered end 34 and elongated leg member 32.

It is further an embodiment of the invention wherein such tapered end 34 has a covering 38 that slides over the tapered end 34 that is made of plastic or rubber to prevent damage to such item to be lifted. Also, it is within the scope of the invention that such tapered end 34 be made of a different material such as plastic or rubber and is engageable with such leg member 32 as either an insert or a sleeve. It is presently preferred that such plastic end be made of polyethylene. It is within the scope of the invention that such second means 30 be formed of a second predetermined material. It is also an embodiment of the invention that such second means 30 be engageable with such elongated rod member 2 as an insert or a sleeve similar to the way the tapered end 34 is engageable with the elongated leg member 32. However, it is presently preferred that such second predetermined material is the same as the first predetermined material. As stated previously such tapered end 34 of second means 30 could be made of a third predetermined material such as polyethylene.

In another embodiment of the invention such first means 20 is offset from said elongated rod member at a predetermined angle as seen in Figure 2. Also as seen in Figure 10 it is an embodiment of the invention that such first means 20 is

engageable with the first end 4 of the elongated rod member 2 by a ratchet arrangement 26 whereby such first means 20 can be adjusted to a variety of angles. Such first means 20 is substantially an elongated arm member. It is also within an embodiment of the invention that such first means 20 is also adjustable wherein it includes at least two telescoping members. Again, depending on the item to be lifted this would permit the first means 20 to be extended if necessary to position the apparatus 10 so as to reach the base of the furniture or other item.

It is within the scope of the invention the tapered tip 34 portion of the second means 30 of the apparatus 10 can be easily replaced with another tapered tip 35 which has a wider tip portion or another tapered tip 37 that is designed to remove nails. In this case the tapered tip is essentially a V-shaped notch and the notch has a taper so as to be able to get under nails. Thus, a carpet installer can use the apparatus 10 to lift furniture and then change the tip portion so as to be able to remove nails. The unit could also be used by roofers to remove nails or shingles. Other applications are envisioned which would also fall within the scope of the invention.

In an alternate embodiment of the invention, as shown in Figure 20, such apparatus 10 has a hanger 52 attached to the elongated rod member 2. Such hanger 52 is used to hold a set of furniture slides or furniture protectors so that they would be readily available when such lifting apparatus 10 is used for

lifting furniture and the like.

Also in another embodiment of the invention such third means 40 is engageable with such second means 30 by a bolt arrangement 54. Such bolt arrangement 54 could be one of a straight bolt and nut or it could be a U-bolt. In any case the bolt end must be recessed so as to not interfere with the pivoting of the such third means 40 when the apparatus 10 is being used.

Illustrated in Figures 20 and 21 is shown the embodiment of the invention in which the bolt arrangement 54 is a U-bolt. Also shown in these Figures is a different type of handle 26 than that shown in the other Figures. In this case the handle 26 is in the shape of a shovel handle. Such handle 26 could also be turned substantially 90 degrees so as to make it like a pistol handle rather than a shovel handle.

Illustrated in Figures 22, 23 and 24 is yet another embodiment of the invention. In this embodiment such apparatus, generally designated 60, is for applying an upward pressure to at least a portion of an object to be lifted which is at least sufficient to lift such object a predetermined distance. The apparatus 60 comprises a first elongated rod member 62 which is formed of a first predetermined material and has a predetermined shape. There is a first means 70 that is engageable with the first end of the first elongated rod member 62. Such first means 70 is basically a handle member for gripping the apparatus 60 during use. A second elongated rod member 64 is one of formed integrally with the first elongated rod member 62 as a single

piece or is engageable as a separate piece at a first end thereof to a second end of the first elongated rod member 62.

An elongated object bearing means 80 is engageable with the second elongated rod member 64 closely adjacent a second end thereof for engaging at least a portion of a bottom surface of such object to be lifted. Such object bearing means 80 exerts an upward pressure on such object being lifted and has a predetermined surface bearing area 82 which is at least sufficient to prevent the apparatus 60 from tipping during use.

Illustrated in Figures 25-27 is an alternate embodiment of the invention wherein the apparatus, generally designated 90, can be used for removing a post 102 imbedded in earth by applying an upward pressure to such post 102 which is at least sufficient to lift such post 102 a predetermined distance, said predetermined distance being at least sufficient to enable removing such post 102 by hand. The apparatus 90 comprises a first elongated rod member 92 formed of a first predetermined material and having a first predetermined shape. There is a handle means 100 engageable with a first end of the first elongated rod member 92 for gripping the apparatus 90 during use. A second elongated rod member 94 is one of formed integrally with said first elongated rod member 92 as a single piece and engageable as a separate piece at a first end thereof with a second end of said first elongated rod member 92 and extending outwardly therefrom. There is a gripping means, generally designated 110, that is engageable with such post 102 for gripping such post 102 during removal.

Such gripping means 110 could be a rope or a chain or any similar material for wrapping around the post 102 and gripping the post 102. There is further an engagement means, generally designated 120, disposed at a second end of the second elongated rod member 94 for engaging the gripping means in order to exert an upward pressure on such post 102. The engagement means 120 is generally a hook like member; however, it is within the scope of the invention that such engagement means 120 could have a different shape. A substantially stationary combination support and pivot means, generally designated 130, is engageable with and disposed closely adjacent an intersection of the second end of the first elongated rod member 92 and the first end of the second elongated rod member 94 for supporting and pivoting the apparatus 90.

In an alternate embodiment of the invention such gripping means 110 and engagement means 120 could be incorporated into a combination gripping and engagement means 140 as is evident in Figures 26 and 27.

While a presently preferred embodiment and alternate embodiments of the present invention have been described in detail above, it should be understood that various other adaptations and/or modifications of the invention can be made by those persons who are particularly skilled in the art without departing from either the spirit of the invention or the scope of the appended claims.